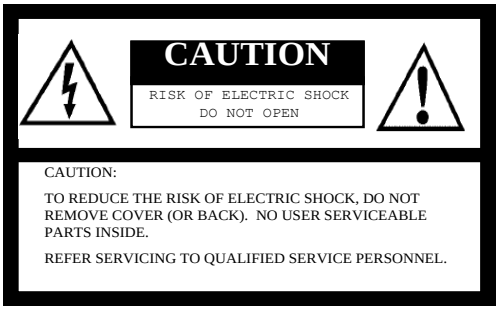
SENTECH

STC-GE33A / GEC33A
STC-GE83A / GEC83A
STC-GE152A / GEC152A
STC-GE202A / GEC202A
Product Specification

GigE Vision
Color / Monochrome CCD Camera Series

Safety Precautions


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

For U.S.A.

Warning:

This equipment generates and uses radio frequency energy and if not installed and used properly, I.e., in strict accordance with the instruction manual, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment.

For Canada

Warning:

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

Product Precautions

- Handle the camera with care. Do not abuse the camera; avoid striking or shaking it. Improper handling or storage could damage the camera.
- Do not pull or damage the camera cable.
- During camera use, do not wrap he unit in any material. This will cause the internal temperature of the unit to increase.
- Do not expose the camera to moisture, or do not try to operate it in wet areas.
- Do not operate the camera beyond its temperature, humidity and power source ratings.
- While the camera is not being used, keep the lens or lens cap on the camera to prevent dust or contamination from getting in the CCD or filter area and scratching or damaging this area.
- Do **not** keep the camera under the following conditions:
    - In wet, moist, and high humidity areas
    - Under hot, direct sunlight
    - In high temperature areas
    - Near an object that releases a strong magnetic or electric field
    - Areas with strong vibrations
- Use a soft cloth to clean the camera. Use pressured air spray to clean the surface of the glass. DO not scratch the surface of the glass.

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I. Specifications

A. Electronic Specifications / Mechanical Specifications / Environmental Conditions

1. STC-GE33A / STC-GEC33A

Product			STC-GEC33A	STC-GE33A
Electronic Specifications	Imager		1/3" Interline VGA color progressive CCD: ICX424AQ	1/3" Interline VGA monochrome progressive CCD: ICX424AL
	Total Picture Elements		692 (H) x 504 (V)	
	Active Picture Elements		VGA: 648 (H) x 494 (V)	
	Chip Size		5.79 (H) x 4.89 (V) mm	
	Cell Size		7.4 (H) x 7.4 (V) µm	
	Scanning System		Progressive	
	Vertical Frequency (Frame Rate)		89.91172 Hz at full resolution 0.72028 to 360.33325 Hz adjustable via the communication Maximum frame rate depends on the AOI setting Maximum frame rate of the camera(360.33325) is 104 vertical resolution AOI setting	
	Horizontal Frequency		47.2028 kHz	
	Pixel Frequency		36.8181 MHz	
	Noise Level	@ 8bit output	≤ 3 Digit (Gain 0 dB)	
		@ 10bit output	≤ 12 Digit (Gain 0 dB)	
		@ 12bit output	≤ 48 Digit (Gain 0 dB)	
	Minimum Scene Illumination		25.75 Lux at F1.2, 89.91172 Hz	0.58 Lux at F1.2, 89.91172 Hz
	Sync. System		Internal	
	Video Output		Digital 8, 10 or 12 bit Raw Data or RGB 8 bit	Digital 8, 10 or 12 bit Raw Data
	Interface		IEEE802.3 (1000BASE-T)	
	Protocol		GigE Vision® 1.2 and GenICam™ 2.0 compliant	
	Exposure Time		Preset continuous mode: 10 useconds to 16,777,216 useconds Preset trigger mode: 10 useconds to 16,777,216 useconds Pulse width mode: 10 useconds to Unlimited	
	ALC		Auto iris lens, electronic iris and AGC (ON/OFF)	
	Gain		0 to 20.4 dB	
	Gamma		Gamma 1.0 (Factory default) or uploadable gamma table	
	AOI Function		Programmable AOI setting via the communication	
	Smear Reduction		Selectable ON/OFF via the communication	
	Color Interpolation		Available on RGB output	N/A
	White Balance Function		Auto, manual and push-to-set white balance is available on both Raw data output and RGB output	N/A
	Trigger Mode		Edge preset trigger, Pulse width trigger (unlimited long exposure)	
	Communication		UART communication through Ethernet port	
	I/Os		One opto-isolated input and two LVTTL outputs	
	Auto IRIS lens control		DC IRIS control input with video level target, peak/average and zone weight settings via the communication	
	Power	Input Voltage	+10.8 to +26.4 Vdc	
		Consumption	Less than 5.0 W	

Product			STC-GEC33A	STC-GE33A
Mechanical Specifications	Dimensions		35 (W) x 35 (H) x 50.6 (D) mm excluding connectors	
	Optical Filter		IR cut filter on	No filter
	Optical Center Accuracy		Positional accuracy in H and V directions: +/- 0.3 mm Rotational accuracy of H and V: +/- 1.5 deg.	
	Material		Aluminum (AC)	
	Lens Mount		C mount	
	Connectors		RJ45 connector Power/IO connector: HR10A-7R-6PB (Hirose) or equivalent DC IRIS lens connector: M1951 (EMUDEN) or equivalent	
	Camera Mount Screws		Two 1/4" Tripod screw holes: (One on each top and bottom plate), Twelve M4 screws holes: (Four on each top and bottom plate, two on each side plate)	
	Weight		Approximately 120 g	
Environmental Specifications	Operational Temperature	Minimum	Environmental Temperature -5°C	
		Maximum	Camera housing temperature (top plate) shall not exceed 65°C (This corresponds to an environmental temperature of approximately 35°C)	
	Storage Temperature		Environmental Temperature -30°C to 65°C	
	Vibration		20Hz to 200Hz to 20Hz (5min./cycle), acceleration 10G, 3 directions 30 min. each	
	Shock		Acceleration 38G, half amplitude 6ms, 3 directions 3 times each	
	Standard Compliancy		EMS: EN61000-6-2, EMI: EN55011	
	RoHS		RoHS Compliant	

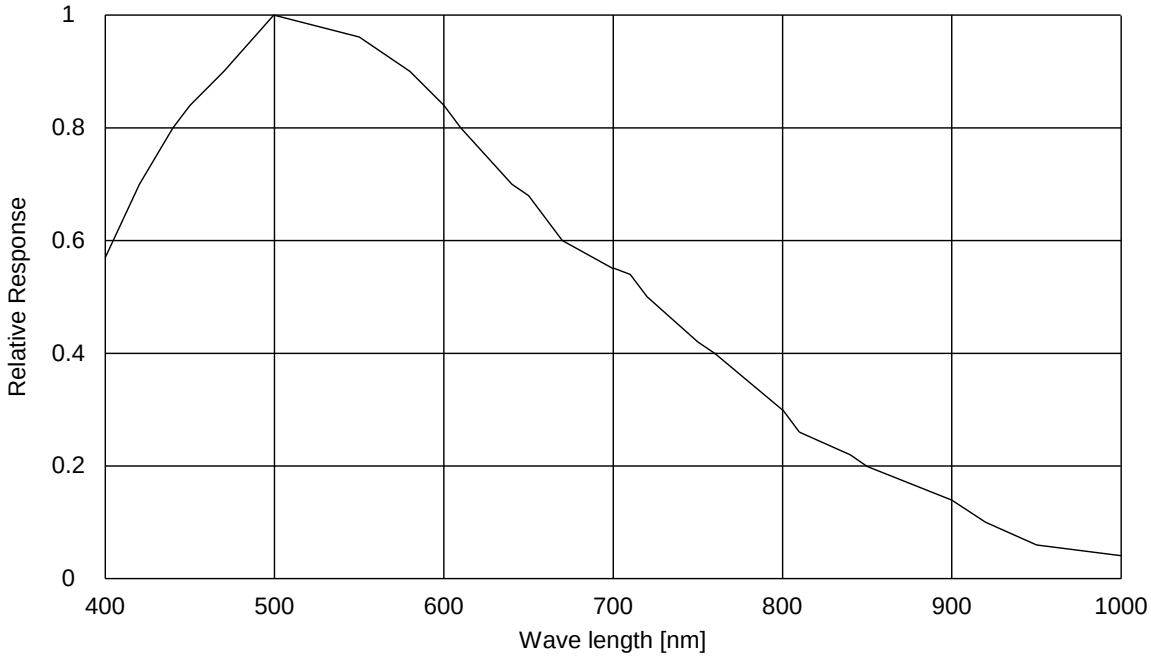
Note: Please use this camera in surrounding temperature conditions that are less than 35°C or in conditions where the camera's top case plate is less than 65°C.

When the camera is used in surrounding temperatures that exceed 35°C, please make sure that the camera is set up to properly radiate heat (maintaining the camera's top case plate's temperature to be less than 65°C).

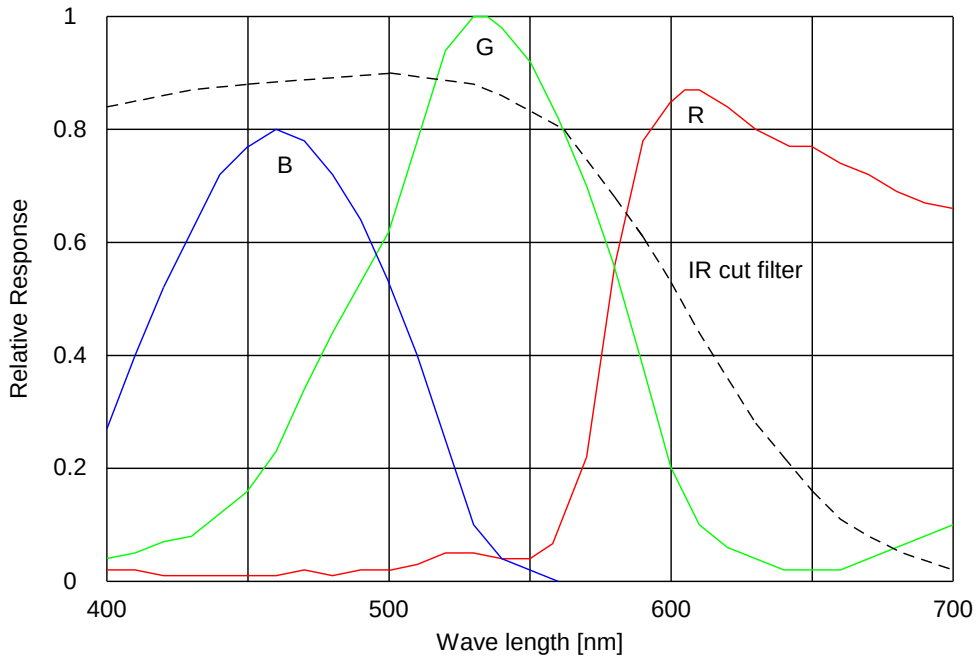
Taking these steps will maintain the heat rating of the electronic components of the camera.

Spectral Sensitivity Characteristics

STC-GE33A



STC-GEC33A (with IR cut filter)



2. STC-GE83A / STC-GEC83A

Product			STC-GEC83A	STC-GE83A
Electronic Specifications	Imager		1/3” Interline XGA color progressive CCD: ICX204AK	1/3” Interline XGA monochrome progressive CCD: ICX204AL
	Total Picture Elements		1077 (H) x 788 (V)	
	Active Picture Elements		XGA: 1024 (H) x 768 (V)	
	Chip Size		5.5 (H) x 4.92 (V) mm	
	Cell Size		4.65 (H) x 4.65 (V) µm	
	Scanning System		Progressive	
	Vertical Frequency (Frame Rate)		36.42113 Hz at full resolution 0.44238 to 150.21358 Hz adjustable via the communication Maximum frame rate depends on the AOI setting Maximum frame rate of the camera(150.21358) is 146 vertical resolution AOI setting	
	Horizontal Frequency		28.9907 kHz	
	Pixel Frequency		36.818175 MHz	
	Noise Level	@ 8bit output	≤ 3 Digit (Gain 0 dB)	
		@ 10bit output	≤ 12 Digit (Gain 0 dB)	
		@ 12bit output	≤ 48 Digit (Gain 0 dB)	
	Minimum Scene Illumination		24.70 Lux at F1.2, 36.42113 Hz	0.95 Lux at F1.2, 36.42113 Hz
	Sync. System		Internal	
	Video Output		Digital 8, 10 or 12 bit Raw Data or RGB 8 bit	Digital 8, 10 or 12 bit Raw Data
	Interface		IEEE802.3 (1000BASE-T)	
	Protocol		GigE Vision® 1.2 and GenICam™ 2.0 compliant	
	Shutter Speed		Preset continuous mode: 10 useconds to 16,777,216 useconds Preset trigger mode: 10 useconds to 16,777,216 useconds Pulse width mode: 10 useconds to Unlimited	
	ALC		Auto iris lens, electronic iris and AGC (ON/OFF)	
	Gain		0 to 20.4 dB	
	Gamma		Gamma 1.0 (Factory default) or uploadable gamma table	
	AOI Function		Programmable AOI setting via the communication	
	Smear Reduction		Selectable ON/OFF via the communication	
	Color Interpolation		Available on RGB output	N/A
	White Balance Function		Auto, manual and push-to-set white balance is available on both Raw data output and RGB output	N/A
	Trigger Mode		Edge preset trigger, Pulse width trigger (unlimited long exposure)	
	Communication		UART communication through Ethernet port	
	I/Os		One opto-isolated input and two LVTTL outputs	
	Auto IRIS lens control		DC IRIS control input with video level target, peak/average and zone weight settings via the communication	
	Power	Input Voltage	+10.8 to +26.4 Vdc	
		Consumption	Less than 5.0 W	

Product			STC-GEC83A	STC-GE83A
Mechanical Specifications	Dimensions		35 (W) x 35 (H) x 50.6 (D) mm excluding connectors	
	Optical Filter		IR cut filter on	No filter
	Optical Center Accuracy		Positional accuracy in H and V directions: +/- 0.3 mm Rotational accuracy of H and V: +/- 1.5 deg.	
	Material		Aluminum (AC)	
	Lens Mount		C mount	
	Connectors		RJ45 connector Power/IO connector: HR10A-7R-6PB (Hirose) or equivalent DC IRIS lens connector: M1951 (EMUDEN) or equivalent	
	Camera Mount Screws		Two 1/4" Tripod screw holes: (One on each top and bottom plate), Twelve M4 screws holes: (Four on each top and bottom plate, two on each side plate)	
	Weight		Approximately 120 g	
Environmental Specifications	Operational Temperature	Minimum	Environmental Temperature -5°C	
		Maximum	Camera housing temperature (top plate) shall not exceed 65°C (This corresponds to an environmental temperature of approximately 35°C)	
	Storage Temperature		-30°C to 65°C	
	Vibration		20Hz to 200Hz to 20Hz (5min./cycle), acceleration 10G, 3 directions 30 min. each	
	Shock		Acceleration 38G, half amplitude 6ms, 3 directions 3 times each	
	Standard Compliancy		EMS: EN61000-6-2, EMI: EN55011	
	RoHS		RoHS Compliant	

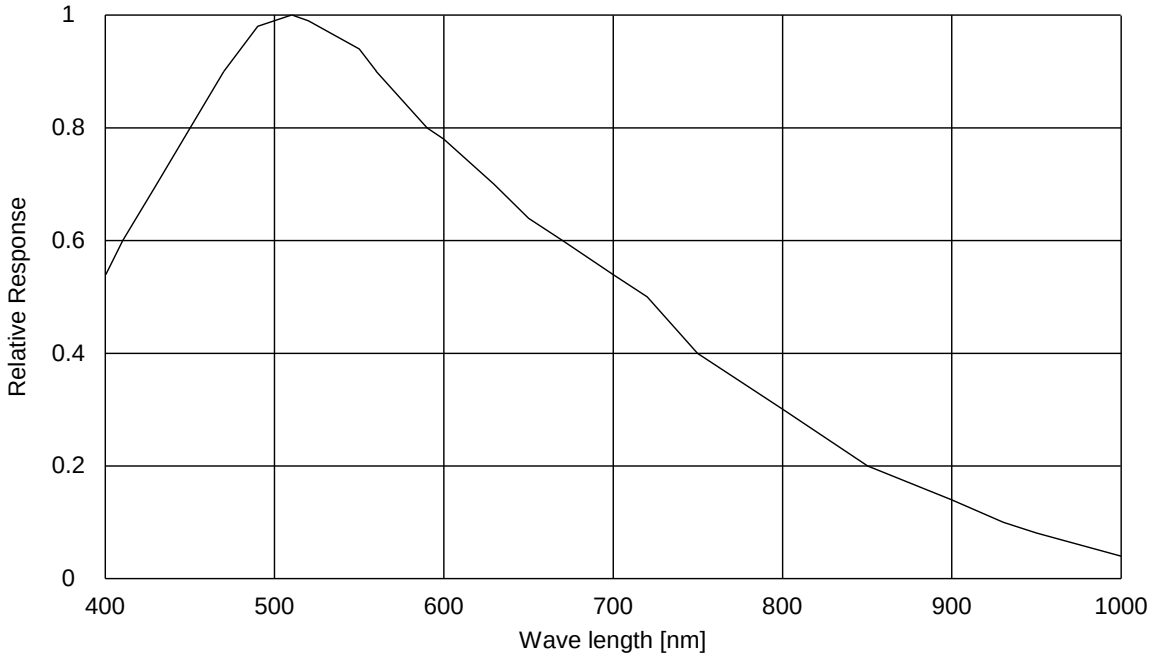
Note: Please use this camera in surrounding temperature conditions that are less than 35°C or in conditions where the camera's top case plate is less than 65°C.

When the camera is used in surrounding temperatures that exceed 35°C, please make sure that the camera is set up to properly radiate heat (maintaining the camera's top case plate's temperature to be less than 65°C).

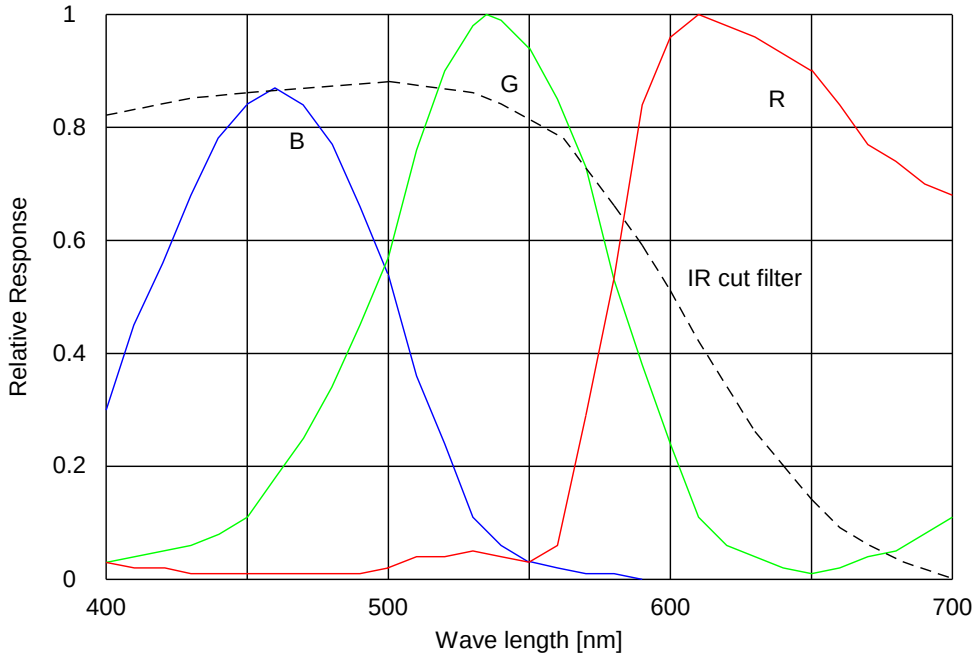
Taking these steps will maintain the heat rating of the electronic components of the camera.

Spectral Sensitivity Characteristics

STC-GE83A



STC-GEC83A (with IR cut filter)



3. STC-GE152A / STC-GEC152A

Product			STC-GEC152A	STC-GE152A
Electronic Specifications	Imager		1/2” Interline SXGA color progressive CCD: ICX205AK	1/2” Interline SXGA monochrome progressive CCD: ICX205AL
	Total Picture Elements		1434 (H) x 1050 (V)	
	Active Picture Elements		SXGA: 1360 (H) x 1040 (V)	
	Chip Size		7.6 (H) x 6.2 (V) mm	
	Cell Size		4.65 (H) x 4.65 (V) µm	
	Scanning System		Progressive	
	Vertical Frequency (Frame Rate)		19.25954 Hz at full resolution 0.31387 to 77.03817 Hz adjustable via the communication Maximum frame rate depends on the AOI setting Maximum frame rate of the camera(77.03817) is 200 vertical resolution AOI setting	
	Horizontal Frequency		20.5688 kHz	
	Pixel Frequency		36.818175 MHz	
	Noise Level	@ 8bit output	≤ 3 Digit (Gain 0 dB)	
		@ 10bit output	≤ 12 Digit (Gain 0 dB)	
		@ 12bit output	≤ 48 Digit (Gain 0 dB)	
	Minimum Scene Illumination		15.49 Lux at F1.2, 19.25954 Hz	0.41 Lux at F1.2, 19.25954 Hz
	Sync. System		Internal	
	Video Output		Digital 8, 10 or 12 bit Raw Data or RGB 8 bit	Digital 8, 10 or 12 bit Raw Data
	Interface		IEEE802.3 (1000BASE-T)	
	Protocol		GigE Vision® 1.2 and GenICam™ 2.0 compliant	
	Shutter Speed		Preset continuous mode: 10 useconds to 16,777,216 useconds Preset trigger mode: 10 useconds to 16,777,216 useconds Pulse width mode: 10 useconds to Unlimited	
	ALC		Auto iris lens, electronic iris and AGC (ON/OFF)	
	Gain		0 to 20.4 dB	
	Gamma		Gamma 1.0 (Factory default) or uploadable gamma table	
	AOI Function		Programmable AOI setting via the communication	
	Smear Reduction		Selectable ON/OFF via the communication	
	Color Interpolation		Available on RGB output	N/A
	White Balance Function		Auto, manual and push-to-set white balance is available on both Raw data output and RGB output	N/A
	Trigger Mode		Edge preset trigger, Pulse width trigger (unlimited long exposure)	
	Communication		UART communication through Ethernet port	
	I/Os		One opto-isolated input and two open-collector outputs	
	Auto IRIS lens control		DC IRIS control input with video level target, peak/average and zone weight settings via the communication	
	Power	Input Voltage	+10.8 to +26.4 Vdc	
		Consumption	Less than 5.0 W	

Product			STC-GEC152A	STC-GE152A
Mechanical Specifications	Dimensions		35 (W) x 35 (H) x 50.6 (D) mm excluding connectors	
	Optical Filter		IR cut filter on	No filter
	Optical Center Accuracy		Positional accuracy in H and V directions: +/- 0.3 mm Rotational accuracy of H and V: +/- 1.5 deg.	
	Material		Aluminum (AC)	
	Lens Mount		C mount	
	Connectors		RJ45 connector Power/IO connector: HR10A-7R-6PB (Hirose) or equivalent DC IRIS lens connector: M1951 (EMUDEN) or equivalent	
	Camera Mount Screws		Two 1/4" Tripod screw holes: (One on each top and bottom plate), Twelve M4 screws holes: (Four on each top and bottom plate, two on each side plate)	
	Weight		Approximately 120 g	
Environmental Specifications	Operational temperature	Minimum	Environmental Temperature -5°C	
		Maximum	Camera housing temperature (top plate) shall not exceed 65°C (This corresponds to an environmental temperature of approximately 35°C)	
	Storage Temperature		-30°C to 65°C	
	Vibration		20Hz to 200Hz to 20Hz (5min./cycle), acceleration 10G, 3 directions 30 min. each	
	Shock		Acceleration 38G, half amplitude 6ms, 3 directions 3 times each	
	Standard Compliancy		EMS: EN61000-6-2, EMI: EN55011	
	RoHS		RoHS Compliant	

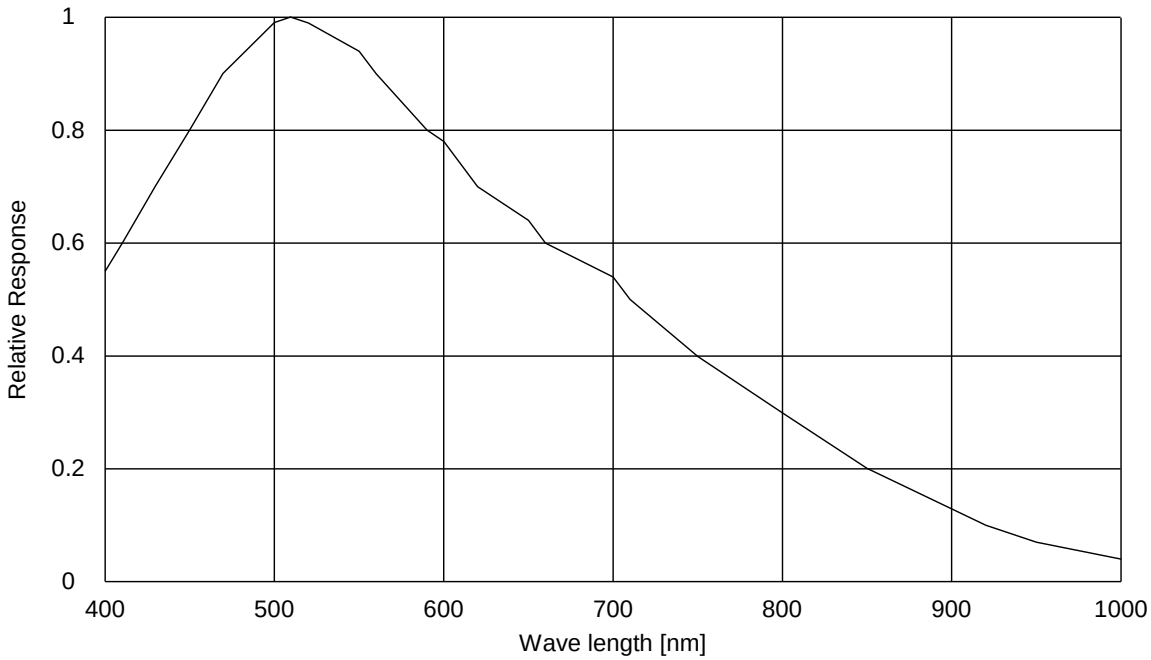
Note: Please use this camera in surrounding temperature conditions that are less than 35°C or in conditions where the camera's top case plate is less than 65°C.

When the camera is used in surrounding temperatures that exceed 35°C, please make sure that the camera is set up to properly radiate heat (maintaining the camera's top case plate's temperature to be less than 65°C).

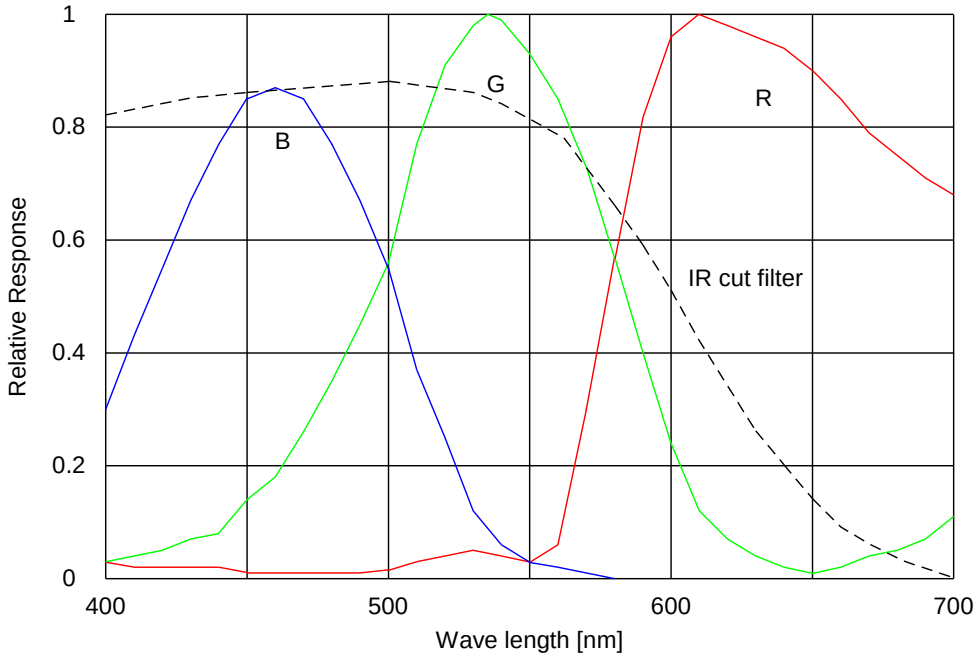
Taking these steps will maintain the heat rating of the electronic components of the camera.

Spectral Sensitivity Characteristics

STC-GE152A



STC-GEC152A (with IR cut filter)



4. STC-GE202A / STC-GEC202A

Product			STC-GEC202A	STC-GE202A
Electronic Specifications	Imager		1/1.8" Interline UXGA color progressive CCD: ICX274AQ	1/1.8" Interline UXGA monochrome progressive CCD: ICX274AL
	Total Picture Elements		1688 (H) x 1246 (V)	
	Active Picture Elements		UXGA: 1624 (H) x 1236 (V)	
	Chip Size		8.5 (H) x 6.8 (V) mm	
	Cell Size		4.4 (H) x 4.4 (V) µm	
	Scanning System		Progressive	
	Vertical Frequency (Frame Rate)		15.31668 Hz at full resolution 0.29261 to 61.26674 Hz adjustable via the communication Maximum frame rate depends on the AOI setting Maximum frame rate of the camera(61.26674) is 230 vertical resolution AOI setting	
	Horizontal Frequency		19.1761 kHz	
	Pixel Frequency		36.8181 MHz	
	Noise Level	@ 8bit output	≤ 3 Digit (Gain 0 dB)	
		@ 10bit output	≤ 12 Digit (Gain 0 dB)	
		@ 12bit output	≤ 48 Digit (Gain 0 dB)	
	Minimum Scene Illumination		7.27 Lux at F1.2, 15.31668 Hz	0.16 Lux at F1.2, 15.31668 Hz
	Sync. System		Internal	
	Video Output		Digital 8, 10 or 12 bit Raw Data or RGB 8 bit	Digital 8, 10 or 12 bit Raw Data
	Interface		IEEE802.3 (1000BASE-T)	
	Protocol		GigE Vision® 1.2 and GenICam™ 2.0 compliant	
	Shutter Speed		Preset continuous mode: 1 useconds to 16,777,216 useconds Preset trigger mode: 1 useconds to 16,777,216 useconds Pulse width mode: 1 useconds to Unlimited	
	ALC		Auto iris lens, electronic iris and AGC (ON/OFF)	
	Gain		0 to 20.4 dB	
	Gamma		Gamma 1.0 (Factory default) or uploadable gamma table	
	AOI Function		Programmable AOI setting via the communication	
	Smear Reduction		Selectable ON/OFF via the communication	
	Color Interpolation		Available on RGB output	N/A
	White Balance Function		Auto, manual and push-to-set white balance is available on both Raw data output and RGB output	N/A
	Trigger Mode		Edge preset trigger, Pulse width trigger (unlimited long exposure)	
	Communication		UART Communication through Ethernet port	
	I/Os		One opto-isolated input and two open-collector outputs	
	Auto IRIS lens control		DC IRIS control input with video level target, peak/average and zone weight settings via the communication	
	Power	Input Voltage	+10.8 to +26.4 Vdc	
		Consumption	Less than 5.00 W	

Product			STC-GEC202A	STC-GE202A
Mechanical Specifications	Dimensions		35 (W) x 35 (H) x 50.6 (D) mm excluding connectors	
	Optical Filter		IR cut filter on	No filter
	Optical Center Accuracy		Positional accuracy in H and V directions: +/- 0.3 mm Rotational accuracy of H and V: +/- 1.5 deg.	
	Material		Aluminum (AC)	
	Lens Mount		C mount	
	Connectors		RJ45 connector Power/IO connector: HR10A-7R-6PB (Hirose) or equivalent DC IRIS lens connector: M1951 (EMUDEN) or equivalent	
	Camera Mount Screws		Two 1/4" Tripod screw holes: (One on each top and bottom plate), Twelve M4 screws holes: (Four on each top and bottom plate, two on each side plate)	
	Weight		Approximately 120 g	
Environmental Specifications	Operational Temperature	Minimum	Environmental Temperature -5°C	
		Maximum	Camera housing temperature (top plate) shall not exceed 65°C (This corresponds to an environmental temperature of approximately 35°C)	
	Storage temperature		Environmental Temperature: -30°C to 65°C	
	Vibration		20Hz to 200Hz to 20Hz (5min./cycle), acceleration 10G, 3 directions 30 min. each	
	Shock		Acceleration 38G, half amplitude 6ms, 3 directions 3 times each	
	Standard Compliancy		EMS: EN61000-6-2, EMI: EN55011	
	RoHS		RoHS Compliant	

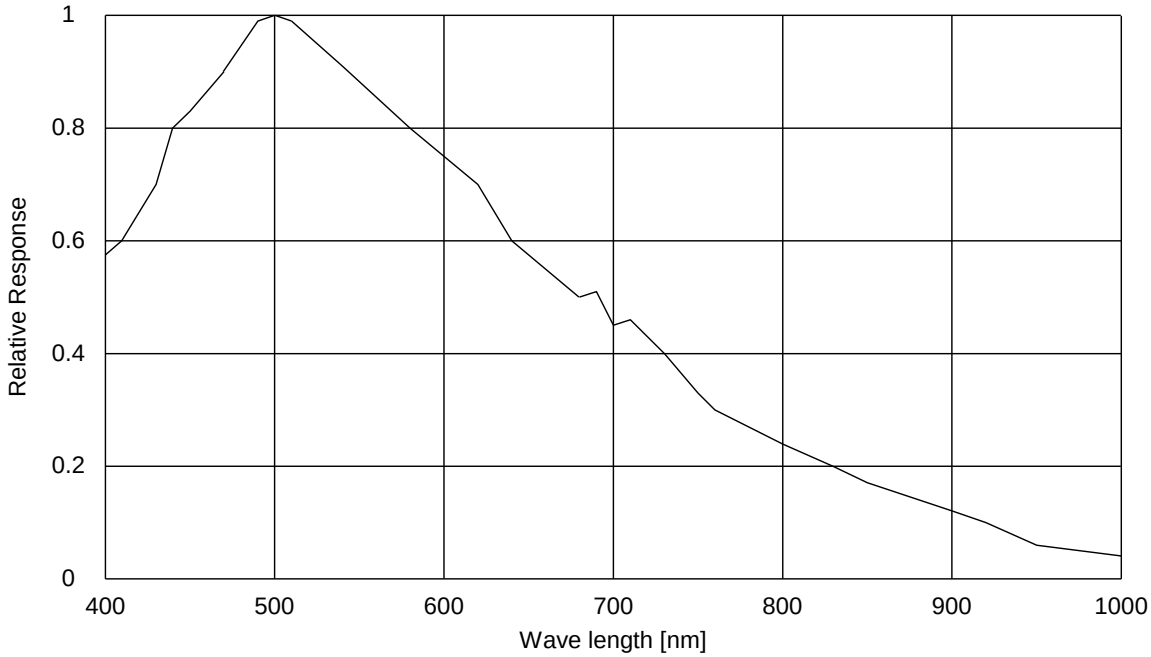
Note: Please use this camera in surrounding temperature conditions that are less than 35°C or in conditions where the camera's top case plate is less than 65°C.

When the camera is used in surrounding temperatures that exceed 35°C, please make sure that the camera is set up to properly radiate heat (maintaining the camera's top case plate's temperature to be less than 65°C).

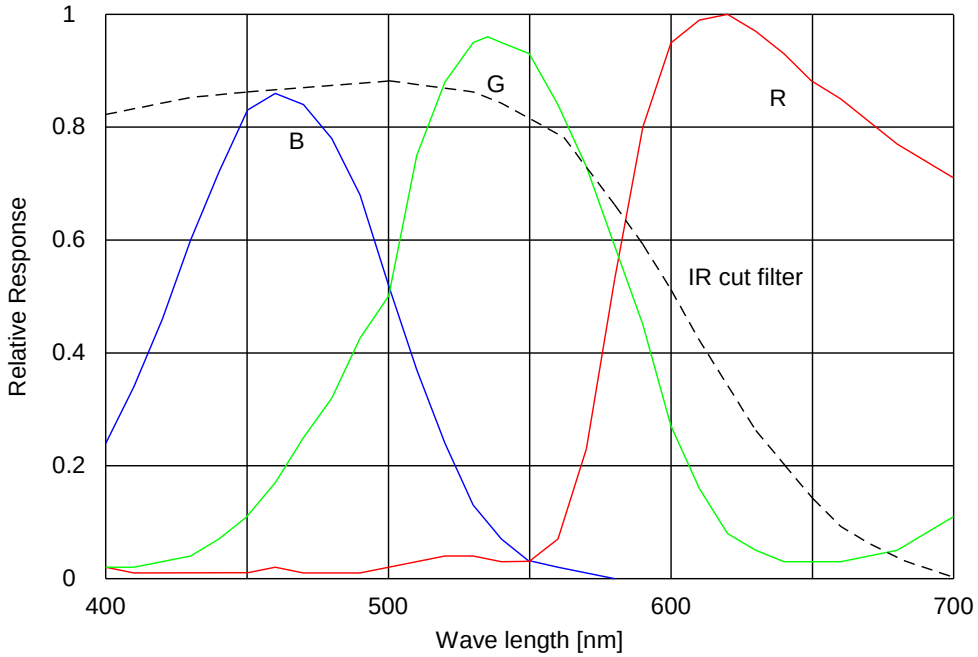
Taking these steps will maintain the heat rating of the electronic components of the camera.

Spectral Sensitivity Characteristics

STC-GE202A



STC-GEC202A (with IR cut filter)



B. Connector Specifications

1. RJ45 Connector:

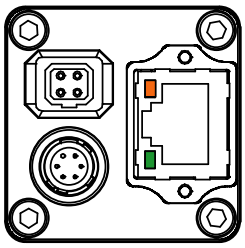
Caution: This product is **not** a PoE type. Apply power (+10.8 to +26.4Vdc) ***only*** through the Power/IO connector.

Pin Assignment:

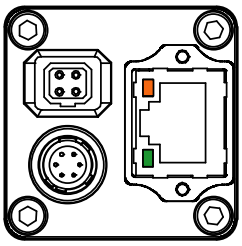
Pin No.	Signal Name
1	TA+
2	TA-
3	TB+
4	TC+
5	TC-
6	TB-
7	TD+
8	TD-

LED Information:

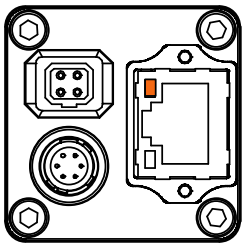
Green LED	Yellow LED	Status
Green Light ON	Orange Light ON	Power ON
Green Light ON	Orange Light Blinking	1 Gb Transferring
Light OFF	Orange Light Blinking	100 Mb Transferring



The camera is powered-on



Green light: ON
Yellow light: Blinking
1 Gb Transferring



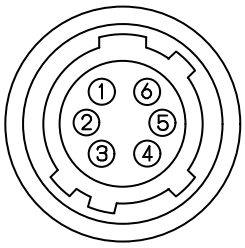
Green light: OFF
Yellow light: Blinking
100 Mb Transferring

Please use a 1Gb supported NIC, HUB and LAN cable. Check that the NIC and HUB being used is “1Gb transferring”.
Damaging or mishandling the CAT5e cable may cause the transferring speed to change from 1Gb to 100Mb. If this happens, please replace the CAT5e cable.

2. Power/IO Connector: Connector: HR10A-7R-6PB (Hirose) or equivalent.
This connector is for the DC power input and the input and output signals.

Pin Assignment:

Pin No.	Signal Name	IN/OUT	Signals	Initial Output
1	GND	IN	GND	
2	IO_OUT1	OUT	+3.3V LVTTL	FrameTriggerWait
3	IO_OUT2	OUT	+3.3V LVTTL	ExposureActive
4	TRG_In-	IN	Isolated -	
5	TRG_In+	IN	Isolated +	
6	POWER IN	IN	+10.8 to +26.4 Vdc	



a. Input Signal

TRG IN: Input the trigger signal

High: +3.0 to +26.4V

Low: Smaller than 1.0V

b. Output Signals

Set the output signals from the power/IO connector.

The following six output signals are selectable with the software or communication.

1) FrameTriggerWait

The user can check the camera condition (camera exposure and image output processing by the trigger signal with this FrameTriggerWait signal).

a) High status (3.3V): No processing by the trigger signal. The camera accepts the trigger signal.
b) Low status (0V): The camera is exposed and the image output processes by the trigger signal.

The camera default setting is the input trigger signal is INVALID while at the low status of this signal. When the exposure starts while the image output by the next trigger signal, please change the camera setting (Device code: 00H, Command: 13H) to accept the trigger signal while the image outputs.

The noise appears on the image when the exposure begins while the image is output. The noise appears on the image when the start exposure while the image is output. In this case, please change the “H reset” for the exposure start mode (Device code: 00H, Command: 12H) to change the exposure start point to the next HD timing.

2) UserOutput

The status of the UserOutput signal can change with the “UserOutputValue”.

3) ExposureActive

The user can check the exposure time with the ExposureActive signal.

a) High status (3.3V): The camera is exposing
b) Low status (0V): The camera is not exposed

4) TriggerAuxiliary

The TriggerAuxiliary signal is the input trigger signal.

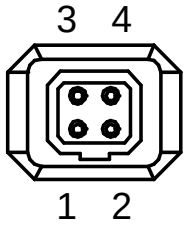
5) TriggerInternal
The TriggerInternal signal is the input trigger signal with the trigger delay time.

6) SensorReadOut
The SensorReadOut signal is the FVAL signal, which is the image output period of the time.

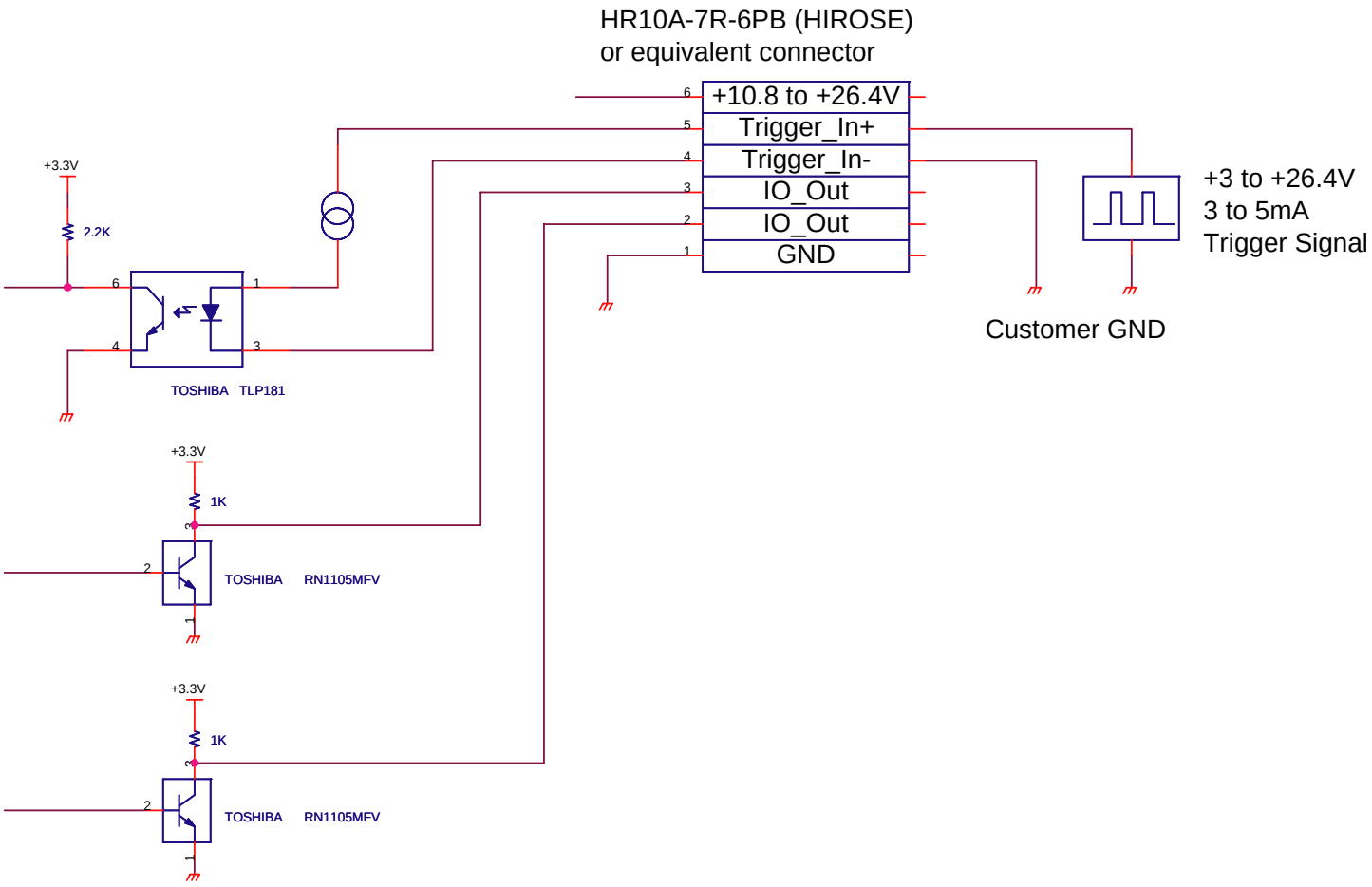
3. DC IRIS Lens Connector: M1951 (EMUDEN) or equivalent.

Pin Assignment:

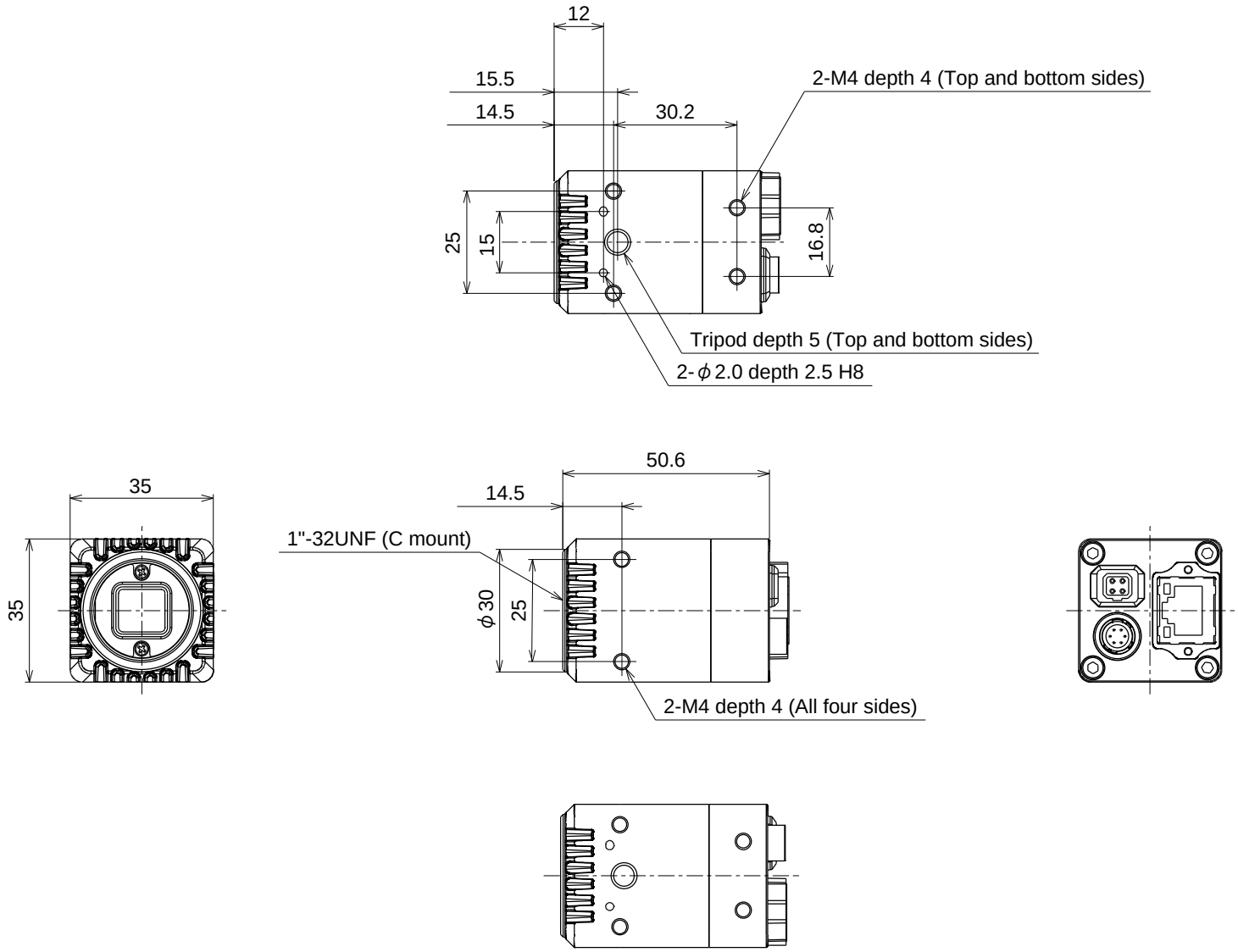
Pin No.	Signal Name
1	DAMP-
2	DAMP+
3	DRIVE+
4	DRIVE-



II. I/O Circuits



III. Dimensions



Unit: mm

Revision

Rev.	Date	Change	Notes
1.0	Aug. 8, 2009	New Document	
1.1	Aug. 18, 2009	Update 1) Electronic Specifications	
1.2	Sept. 2, 2009	Update 1) Dimensions (Change drawing) 2) Mechanical Specifications (Change dimensions) 3) Mechanical Specifications (Change description of optical filter) 4) Electronic Specifications (Add CCD out method for STC-GE/GEC500A) 5) Electronic Specifications (Change description of plus width trigger)	
1.3	Sept. 8, 2009	Update 1) Imager for GE/GEC83A is XGA 2) Pixel Frequency for GE/GEC500A is 64MHz 3) Video output: “Digital 8, 10, or 12 bit Raw Data GigE Vision” 4) Power Supply → Power 5) Gamma: “Programmable gamma setting via the communication (Factory default as 1.0” 6) ROI function added 7) Communication: Communication through Ethernet Connector 8) Page 11: Description of Interface connector changed	
1.4	Dec. 8, 2009	Update 1) Change power/IO connector, IO configurations and related specifications.	
1.5	Mar. 13, 2010	Update 1) Deleted “STC-GE133A/GEC133A 2) Dimensions (Change Drawing) 3) Mechanical Specifications (Changed Dimensions) 4) Electronic Specifications (Delete RGB 10/12 bit from video output)	
1.6	May 6, 2010	Update 1) Electronic Spec: Changed auto iris lens type from DC iris to Video Iris 2) Electronic Spec: Changed input power range from “9 to 28Vdc” to “10.8 to 26.4 Vdc” 3) Electronic Spec: Entered weight 4) Mechanical Spec: Changed auto iris lens type 5) Connector Spec: Changed input power range and auto iris lens type	
1.7	May 17, 2010	Update 1) Electronic Spec: Changed S/N Ratio to Noise Level	
1.8	May 21, 2010	Update 1) Electronic Spec: Changed Video Output 2) Electronic Spec: Changed ALC 3) Electronic Spec: Smear Reduction 4) Electronic Spec: Added Color Interpolation row 5) Electronic Spec: Added White Balance Function row 6) Electronic Spec: Added I/O’s row 7) Mechanical Spec: Dimension: Changed 49.5(D) to 49.6(D) 8) Mechanical Spec: Changed wording of Optical Filter 9) Mechanical Spec: Changed wording of Camera Mount Screws 10) Pg.15, Section 2.Power/IO Connector: Changed pin no. 4&5 last column	Note: Per STJ’s noted changes to ver 1.8. Changes to the minimum illumination and the power consumption were not present. Both are still TBD status.
1.9	July 28, 2010	Update 1) Electronic specifications (Change minimum scene illumination) 2) Electronic specifications (Change power consumption) 3) Electronic specifications (Change the shutter speed) 4) Electronic specifications (Change auto Iris lens type from Video iris to DC iris) 5) Change dimensions 6) Mechanical specifications (Change optical filter, color model has IR cut filter) 7) Environmental specifications (Delete humidity)	
2.0	Sept. 17, 2010	Udate 1) Add I/O circuits 2) Connector specifications (Add the explanation of the TRG READY OUT and EXP OUT signal)	

Rev.	Date	Change	Notes
2.3 (2.1~2.3)	Nov. 29, 2010	Update 1) Electronic specifications (Delete the scanning method) 2) Electronic specifications (Change the frame rate) 3) Electronic specifications (Change the protocol) 4) Electronic specifications (Change the shutter speed) 5) Electronic specifications (Change the gain range) 6) Electronic specifications (Change ROI to AOI) 7) Electronic specifications (Change number of the input for I/O's) 8) Mechanical specifications (Change the dimensions) 9) Mechanical specifications (Change the screw holes) 10) Environmental specifications (Change the temperature) 11) Connector specifications (Change the power/IO connector) 12) I/O circuits (Change the I/O circuits) 13) Dimensions (Change the drawing) 14) Change the dimension for STC-GE500A/GEC500A	
2.4		Update 1) Connector spec (changed the description for the input and output signals) 2) Changed the I/O circuits 3) Electronic spec (Change horizontal and pixel frequency for the GE/GEC83A 4) Electronic spec (change frame rate) 5) Electronic spec (change the minimum scene illumination) 6) Environmental spec (Change operational temp) 7) Change note about the operational temp 8) Connector spec (Add the LED info for RJ45 connector)	Received revision 2.4 & 2.5 on 1/14
2.5		Update 1) Connector spec (change the initial signal for the Power/IO connector)	
2.6	March 3, 2011	Update 1) Added the spectral sensitivity characteristics to each resolution.	
2.7	March 15, 2011	Update 1) Mechanical Spec (Added Optical Center Accuracy) 2) Environmental Spec (Changed operational temperature) 3) Electronic Spec (Change the frame rate for the GE/GEC500A) 4) Environmental Spec (Revise shock and standard conformity)	
2.8	April 1, 2011	Update 1) Connector specifications (Change the LED information for the RJ45 connector) 2) Environmental specifications(Changed the operational temperature)	
2.9	July 8, 2011	Update 1) Change the I/O circuits 2) Electronic Spec (Change frame rate for 83 and 152) 3) Separate the STC-GE/GEC500A from document	
3.0	July 27, 2011	Update 1) Electronic Spec (revised the imager part number for STC-GEC83A)	
3.01	August 24, 2011	Update Changed the output signal name (from FrameActive to SensorReadOut)	

Sensor Technologies America, Inc.
1345 Valwood Pkwy, Suite 320
Carrollton, Texas 75006-6891
TEL (972) 481-9223 FAX (972) 481-9209
URL http://www.sentechamerica.com/

Sensor Technology Co., Ltd.
7F, Harada Center Building
9-17, Naka cho 4chrome
Atsugi-city, Kanagawa
243-0018 Japan
TEL +81-46-295-7061 FAX +81-46-295-7066
URL http://www.sentech.co.jp/

Taiwan Sensor Technology, Inc.
3F-6, No. 9, Aiguo W, Rd,. Jhong Jheng District
Taipei City 100, Taiwan, R.O.C.
TEL 886-2-2383-2331 FAX 886-2-2370-8775
EMAIL: sentech0501@yahoo.com.tw